

Proposed “Stretch” Energy Code for Massachusetts Buildings

Building category	Definition	Requirements based on energy performance (can do prescriptive instead where shown)	Alternative “pre-scriptive” requirement – specific efficiency measures	Source, comments	Benefit-cost modeling results
New residential	Single-family, multi-family of 3 stories or less	HERS index 60 or less, certified by HERS rater (about 40% lower energy use than current Mass. code); follow Energy Star thermal bypass checklist	None	HERS rating = energy use as % of use under IECC code. Current Mass. code ~ HERS 99; soon-to-be-adopted IECC 2009 ~ HERS 92	Sample 3 bedroom home, estimate \$837/year savings (\$8,103 extra construction cost = \$527/year higher mortgage, but save \$1,364/year energy costs)
Large residential additions or major alterations	Above 600 ft ² ; major alterations as in existing code – excludes storm windows, reroofing, doors, etc.	HERS 70, or HERS 85 where existing heating system is retained; certified by HERS rater	Where a HERS rating is not feasible, same as small residential below		3-bed home, estimate \$40/year savings (\$10,168 extra construction cost = \$661/year, but energy costs \$701/year lower)
Small residential additions or alterations	Below 600 ft ² and below 30% of total floor space	HERS 70 or HERS 85, certification by HERS rater is optional	Prescriptive option of Energy Star Homes program; insulation equal to IECC 2009 for climate zone 6A	Quality air-sealing and insulation, EnergyStar windows	
Large commercial and large residential multi-family	Commercial above 100,000 ft ² ; residential 4 stories or more and 100,000 ft ²	Energy use 20% below ASHRAE 90.1 2007, determined by modeling	None	DOE, NGRID modeling show energy savings greater than 20%	
Medium commercial and residential multi-family	Commercial 5,000 to 100,000 ft ² , residential 4 stories or more and below 100,000 ft ²	Energy use 20% below ASHRAE 90.1 2007, determined by modeling	IECC 2009 with NBI Core performance: improved air sealing, insulation, lighting, etc.	Prescriptive based on New Buildings Institute program; used by utilities now for incentive programs	NGRID, NSTAR case studies. Example – 60,000 ft ² office bldg., \$91,000 extra cost, \$29,500 annual energy savings; and \$63,100 NGRID rebate
Small commercial	Below 5,000 ft ²	Exempt	Exempt		
Specialty commercial	Supermarkets, laboratories, warehouses below 100,000 ft ²	Exempt	Exempt	Other specialty buildings can apply for waiver	
Commercial alterations		Exempt	Exempt		

* IECC is the International Energy Conservation Code. The Green Communities Act passed in June, 2008 requires that Massachusetts adopt the latest version of this Code within one year of its publication. IECC 2009 was published in January, 2009.

* ASHRAE is the American Society of Heating, Refrigeration and Air Conditioning Engineers.